REMARKS

In an Office Action mailed January 4, 2005, pending claims 1-24 were examined. Claims 1-6 and 8-23 were rejected, and claims 7 and 24 were objected to as being allowable if rewritten in independent form with all of the base claim limitations and any intervening claims.

In response, Applicants are amending claims 1, 3, 8, 14, 16 and 20 and canceling claims 11, 12, 23 and 24. Applicants request the reconsideration and allowance of claims 1-10 and 13-22, as amended herein, in view of the following remarks.

The specification was objected to because of two informalities associated with pages 6 and 8. Applicants have herein amended the specification to address the two noted points and corrected other matters related solely to form resulting from inadvertent typographical errors. Entrance of these corrections is respectfully requested.

Claims 11-12 were rejected on the basis of 35 U.S.C. 112, first paragraph, and 35 U.S.C. 112, second paragraph. The rejections are rendered moot as a result of the cancellation herein of claims 11 and 12.

Claims 1-6, 8-16 and 19-22 were rejected under 35 U.S.C. 102(e) for being anticipated by Peters et al. (U.S. Patent 6,636,927). The Peters et al. bridge device includes a buffer 304 illustrated in Figure 3 therein with the structure illustrated in Figure 7. As is readily apparent from the Peters et al. buffer of Figure 7, each line of the buffer is of a fixed length. The Peters et al. prefetch buffer stores data having a size correlated to prefetch size controlled by values in a control register.

While the size of the stored data in the Peters et al. device varies, the length of the prefetch buffer is static and fixed. Therefore, the prefetch buffer must be sized to accommodate a largest size data value. When smaller data is stored, there is buffer storage in the prefetch buffer that is not used. This inefficiency is removed by the method and structure recited in the pending claims. While the Peters et al. device varies the utilization of buffer lines, each buffer line is of a fixed, dedicated, single size. In contrast, the recited invention dynamically varies the total length or line size to optimize buffer storage and avoid the dedication of buffer storage to unused portions of a line. This efficiency improvement is neither taught nor suggested by Peters et al.

The claimed structure and method taught by Applicants is able to efficiently support two differing bus masters. As noted by Applicants on page 7, lines 13-15, "In contrast, previous systems would require separate storage elements with predetermined fixed configurations to separately support the two differing bus masters." The Peters et al. device uses a predetermined fixed buffer configuration as noted in Figure 7 of Peters et al. Applicants respectfully request the reconsideration and withdrawal of this rejection for the noted pending claims above.

Claims 17 and 18 were rejected under 35 U.S.C. 103(a) as being unpatentable over Peters et al. (as cited above) in view of Hicks et al. (U.S. Patent 6,085,291). Claims 17 and 18 depend from independent claim 14 which is amended herein. The distinctions noted above for Peters et al. equally apply to claims 17 and 18. For example, the base claim recites "selectively modifying a total length of the replacement

entry" whereas the Peters et al. apparatus maintains a constant length buffer line and modifies the utilization of that line. Hicks et al. was cited for the proposition of showing an address field and a valid bit. The use of addressing information and valid bits by Hicks et al. do not teach or suggest "selecting the replacement entry within the prefetch buffer comprises checking at least one of valid, invalid, or used bits within status fields of the prefetch buffer" as recited in claim 18 or using an address tag field as a status field as recited in claim 17. Applicants request the reconsideration of claims 17 and 18, as amended through the base claim 14, and the withdrawal of the rejection thereof.

Claim 23 was rejected under 35 U.S.C. 103(a) as being unpatentable over Peters et al. (cited above). The recitals of claim 23 were added to those of the objected claim 24 to the base claim 20. Therefore claim 23 was canceled and the rejection made moot.

Should issues remain that might be subject to resolution through a telephonic interview, the Examiner is requested to telephone the undersigned at (512) 996-6839.

Respectfully submitted,

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